MOMENTIVE™

Chemical Resistance

Information For Use With GE Construction Sealants

In answer to questions regarding the effects of solvents and industrial chemicals on cured silicone rubber, the following information has been compiled.

Silicones are, in general, chemically inert and are attacked by only a very few common materials; among them are concentrated sulfuric acid, hydrofluoric acid and under long-term exposure, high pressure steam.

Like any elastomer, cured silicone resin has a tendency to physically absorb those materials and, this absorption may cause the rubber to swell and soften slightly. In a few applications, this volume increase is advantageous. For example, a silicone rubber gasket exposed to certain solvents will swell to form a tighter seal.

The change undergone by silicone rubber in contact with an absorbed solvent is primarily physical. After the solvent has completely evaporated, the cured silicone resin will return to its original physical and mechanical properties. To assure complete evaporation a bake-out at elevated temperature may be necessary.

The following table shows RTV's resistance to various common materials. It indicates the volume change, which may be expected from RTV submerged in a chemical or solvent for one week at room temperature. The following definitions for resistance were arbitrarily assigned.

Less than 10% volume change	Excellent
10-25% volume change	Good
25-75% volume change	Fair
Greater than 75% volume change	Poor

Materials	Resistance
ACIDS	
Citric	Excellent
Hydrochloric, 3%	Fair
Hydrochloric, Conc	Disintegrates
Hydrofluoric	Disintegrates
Phosphoric, dilute	Poor
Sulfuric, 10%	Poor
Sulfuric, Conc	Disintegrates
Tannic	Excellent
Nitric, Conc	Disintegrates
Nitric, 7%	Poor
Acetic, Conc	Good
Acetic, 5%	Excellent
BASES	
Ammonium Hydroxide 10	Poor
Ammonium Hydroxide Conc	Disintegrates
Potassium Hydroxide	Disintegrates
Sodium Hydroxide 1%	Excellent
Sodium Hydroxide 20%	Fair
Sodium Hydroxide 50%	Poor
INORGANIC CHEMICALS	
Anhydrous Ammonia	Excellent
Sodium Chloride, 10%	Excellent
Hydrogen Peroxide, 3%	Excellent
Sodium Carbonate, 2%	Excellent
Sodium Carbonate, 20%	Excellent
Water	Excellent
Water (70 Hrs. @212°F)	Excellent
ORGANIC CHEMICALS	
Detergents	Excellent
Freon 12	Good
Freon 114	Fair
Methyl Chloride	Fair
Tricresyl Phosphate	Excellent

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Materials	Resistance
HYDRAULIC FLUIDS	
Hollingshead, H-2	Excellent
Hollingshead, H-2 (70 Hrs @212ºF)	Good
MIL-L-7808 (Diester Fluid) 70Hrs @ 212ºF	Fair - Good
Skydrol 500	Fair
Skydrol 8000	Excellent
Skydrol8000 (70Hrs. @ 212ºF)	Excellent
Silicate Base	Fair
OILS	
ASTM #10.1 (Aliphatic), 70Hrs. @ 300ºF	Excellent
ASTM #30.1 (Aromatic), 70 Hrs @ 300ºF	Fair
Castor 0.1	Excellent
Pyranol 1476	Excellent
Pyranol 1476 (70 Hrs @ 350ºF)	Good
Diester Oils	Good
Diester Oils (70 Hrs. @ 350ºF)	Fair
Linseed Oil	Excellent
Mineral Oil	Excellent
Silicone, SF96 (100)	Excellent
Silicone, SF96 (100) 70 Hrs @ 300ºF	Fair
Viscasil 60000CSTKS 10,000-1,000,000	Good - Excellent
Viscasil 60000 CSTKS (70 Hrs @ 300ºF)	Good
ASTM #10.1 (Aliphatic), 70Hrs. @ 300ºF	Excellent
ASTM #30.1 (Aromatic), 70 Hrs @ 300ºF	Fair
Castor 0.1	Excellent
Pyranol 1476	Excellent
Pyranol 1476 (70 Hrs @ 350ºF)	Good
Diester Oils	Good
Diester Oils (70 Hrs. @ 350ºF)	Fair
Linseed Oil	Excellent
Mineral Oil	Excellent
SOLVENTS	
Acetone	Fair
Butyl Alcohol	Good
Carbon Tetrachloride	Poor
Diacetone Alcohol	Excellent
Ethyl Alcohol	Excellent
Gasoline	Poor
Jet Fuel, JP4	Fair
Mineral Spirits	Poor
Toluene	Poor

Licensed Products

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